

**OPTICAL SPECTROMETER AND METHOD FOR
COMBUSTION FLAME TEMPERATURE DETERMINATION**

ABSTRACT

5 A solid state optical spectrometer for combustion flame temperature determination comprises: a first photodiode device for obtaining a first photodiode signal, the first photodiode device comprising a silicon carbide photodiode and having a range of optical responsivity within an OH band; a second photodiode device for obtaining a second photodiode signal,
10 the second photodiode device comprising a silicon carbide photodiode and a filter, the second photodiode device having a range of optical responsivity in a different and overlapping portion of the OH band than the first photodiode device; and a computer for obtaining a ratio using the first and second photodiode signals and using the ratio to determine the combustion flame
15 temperature.